



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Freitag et al. Docket No.: HSJ9-2003-0071US2
Serial No.: 10/675,782 Art Unit: 2653
Filing Date: 30 September 2003 Examiner: Heinz, Allen J.
Title: SPIN VALVE SENSOR HAVING ONE OF TWO AP PINNED LAYERS MADE OF COBALT

MAIL STOP PATENT APPLICATION
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

SIR:

INFORMATION DISCLOSURE STATEMENT

In accordance with 37 CFR 1.97 (c), the enclosed Information Disclosure Statement, with attached reference(s), is submitted for consideration in the above-identified application.

A copy of each of the listed documents is enclosed.
The fee as set forth in 1.17 (p) of \$180.00 is Authorized.

The Examiner is respectfully requested to make the listed documents of record in connection with the prosecution of the subject application.

Respectfully,

John J. Oskorep
Reg. # 41,234

Date: 18 May 2006

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PTO/SB/08A (08-03)

Approved for use through 07/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Substitute for form 1449/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1 of 2

Complete if Known

Application Number	10/675,782
Filing Date	30 September 2003
First Named Inventor	Freitag et al.
Art Unit	2653
Examiner Name	Heinz, Allen J.
Attorney Docket Number	HSJ9-2003-0071US2

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
		US- 2002/0181173 A1	12/05/2002	Nagai	
		US- 2002/0085322 A1	07/04/2002	Pinarbasi	
		US- 5,701,223 A1	12/23/1997	Fontana et al.	
		US- 6,535,362 B2	03/18/2003	Kawawake et al.	
		US- 2003/0035255 A1	02/20/2003	Hasegawa et al.	
		US- 6,495,275 B2	12/17/2002	Kamiguchi et al.	
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		US- 6,282,068 B1	08/28/2001	Pinarbasi	
		US- 6,134,090	10/17/2000	Mao et al.	
		US- 5,880,913	03/09/1999	Gill	
		US- 5,432,734	07/11/1995	Kawano et al.	
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		US-			
		US-			
		US-			
		US-			

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T ⁶
		Country Code ³ Number ⁴ Kind Code ⁵ (if known)				
		WO 02/077657	10/03/2002	Hong et al.		

Examiner
Signature

Date
Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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Sheet 2	of 2	Attorney Docket Number	HSJ9-2003-0071US2

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		EGELHOFF Jr. et al., Oxygen as a Surfactant in the Growth of Gant Magnetoresistance Spin Valves, Journal of Applied Physics, 15 December 1997, 6142-6151, 82-12	
		SAKAKIMA et al., Enhanced GMR in PtMn-Based Spin Valves with Specular Reflective Thin Oxide Layers, IEEE Transactions on Magnetism, September 2000, 2554-2556, 36-5, Kyoto, Japan	
		WANG et al., Specularity in GMR Spin Valves and In Situ Electrical and Magnetotransport Measurements, IEEE Transactions on Magnetism, September 2000, 2841-2846, 36-5, Kyoto, Japan	

Examiner Signature	Date Considered
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